



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES &
ENVIRONMENTAL CONTROL
DIVISION OF WATER
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

Surface Water Discharges Section

Telephone: (302) 739-9946
Facsimile: (302) 739-8369

GENERAL PERMIT FOR STORM WATER DISCHARGES FROM SMALL MUNICIPAL
SEPARATE STORM SEWER SYSTEMS IN THE STATE OF DELAWARE

PHASE II MS4 GENERAL PERMIT FACT SHEET

NPDES Permit Number: DE 0051195

State Permit Number: WPCC 3212/13

Executive Summary

The State of Delaware has developed a National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges from Small Municipal Separate Storm Sewer Systems (MS4s). This permit addresses the federal requirements under the Clean Water Act (CWA) to reduce polluted storm water runoff that is contributed by the MS4 and which ultimately discharges to local rivers and streams without treatment.

A small MS4 is a separate storm sewer that is (i) owned or operated by the United States, a State, city, town, borough, county, among other public entities, having jurisdiction over disposal of storm water; (ii) Not defined as a “large” or “medium” MS4. A small MS4 is “regulated” if it is: (1) located in an “urbanized area” as determined by the latest Decennial Census by the U.S. Bureau of the Census; or (2) outside of an urbanized area but designated as a regulated small MS4 by the NPDES permitting authority 40 C.F.R. § 122.32(a). A regulated small MS4 includes storm drain conveyance systems owned or operated by a federal, state or city entity, a town, or other public entity where storm water discharges into the waters of the United States.

Applicants

The State of Delaware Phase II MS4 General Permit will provide coverage for those entities that have been identified as small MS4s under the criteria provided in 40 C.F.R.122.32 (the Phase II Rule). Prior to the issuance of this General Permit, the State of Delaware permitted four entities to discharge under the Phase II Rule: the City of Newark, the City of Dover, the Town of Middletown, and the Delaware Department of Transportation in Kent County. The Department issued individual Phase II MS4 NPDES permits to three these entities in 2003 and issued an

individual Phase II MS4 NPDES permit to the Town of Middletown in 2013. All four of these individual permits have since expired, but have been administratively extended until the present. This General Permit will replace the administratively extended permits for these four entities, as well as permit the additional facilities discussed below.

This General Permit will also be issued as an initial Phase II MS4 permit to those entities identified as new small MS4s through the results of data from the 2010 census. The Phase II Final Rule requires coverage of all small MS4s that are located within the boundaries of a Bureau of the Census-defined “urbanized area” (UA) based on the latest decennial Census. 40 C.F.R. § 122.32(a).

The operator of a regulated MS4 must submit a Notice of Intent (NOI) for coverage to the Department of Natural Resources and Environmental Control (the Department) within 120 days after official notice of inclusion of regulated MS4 under 40 C.F.R. § 122.32(a)(1) or by MS4 designation under 40 C.F.R. § 122.32(a)(2) by the Department, unless granted an extension by the Department or United States Environmental Protection Agency (EPA). The NOI must include the name of the discharging entity, the operator responsible for the management of the MS4 program and descriptive information about the waters to which the MS4 drains. This information must include the names of all known waters that receive a discharge from the MS4, the designated use and the impairment status of each of these water bodies.

Activity Description

The applicants are those entities that own or operate and maintain a portion of a municipal separate storm sewer system that is either located in an urbanized area as determined by the 2010 Census, or is designated by the Department. EPA defines “municipal separate storm sewer system” as “...a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body...having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes...; (ii) Designed or used for collecting or conveying storm water;” [40 C.F.R. § 122.26(b)(8)]. Under this definition, any area that a regulated jurisdiction “owns or operates” infrastructure that conveys runoff can be covered under this NPDES municipal separate storm sewer system permit.

Statutory and Regulatory Basis

The Department proposes to issue this General Permit to those designated entities subject to the discharge limitations, terms and conditions outlined in the permit. Section 402 of the Federal CWA of 1977, as amended by the Water Quality Act of 1987 and as subsequently modified, and 7 Del. C., Chapter 60 provide the statutory authority for permit issuance.

Background Information

Section 402 of the Federal CWA, 33 U.S.C. § 1342, prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES

permit. Similarly, 7 Del. C., Chapter 60, § 6003(a)(2), prohibits the undertaking of any activity “in a way which may cause or contribute to the discharge of a pollutant into any surface or ground water” without first having obtained a permit from the Secretary of the Department.

Efforts to improve water quality under the NPDES program have traditionally focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage. As pollution control measures have been implemented for these discharges, it has become evident that diffuse sources of water pollution (*i.e.*, those occurring over a wide area) are also major contributors to water quality degradation. Past studies, including the Nationwide Urban Runoff Program (NURP) study (EPA 1983), have shown that storm water runoff from urban and industrial areas typically contain the same general types of pollutants that are often found in industrial wastewater discharges, with similar impacts on surface water quality. Pollutants commonly found in storm water runoff include heavy metals, pesticides, herbicides, and synthetic organic compounds such as fuels, waste oils, solvents, lubricants and grease. These compounds can have damaging effects on both human health and aquatic ecosystems. In addition, the high volumes of storm water discharged from municipal separate storm sewer systems in areas of rapid urbanization have had significant impacts on aquatic ecosystems due to physical modifications such as bank erosion and widening of channels.

With the growing concern and realization that storm water runoff, including both urban storm water and runoff from industrial sites, greatly contributes to surface water quality impairment, Congress added specific provisions to the CWA in 1987 (the Water Quality Act of 1987) to address storm water. To view these provisions, see section 402(p) of the CWA, 33 U.S.C. § 1342(p). Congress directed the EPA to develop regulations and require NPDES permits for discharges of storm water from sites of industrial activities and from large and medium sized urbanized areas.

In 1990, EPA published its municipal storm water regulations for medium and large cities or certain counties with populations of 100,000 or more. 55 Fed. Reg. 47990 (Nov. 16, 1990). The Phase II MS4 program, issued in 1999, requires the small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their storm water discharges. 64 Fed. Reg. 68722 (Dec. 8, 1999).

Permit History

In 2003, the Department issued the first cycle of Phase II MS4 permits to the City of Newark, the City of Dover and the Department of Transportation in Kent County as individual NPDES permits. In addition, in 2013 the Department issued a Phase II MS4 permit to the Town of Middletown. These four individual Phase II permits, together with a Phase I MS4 permit issued in May of 2013, provided the foundation on which this General Permit was formed. The Phase I permit covers New Castle County, Delaware Department of Transportation in New Castle County, the towns of Bellefonte, Elsmere, and Newport and the cities of Delaware City, New Castle, and Wilmington as co-permittees.

This General Permit authorizes all existing and new point source discharges of storm water from covered small MS4s. In addition, the permit authorizes discharge of spilled material when necessary to prevent loss of life, personal injury, or severe property damage. The permit does not authorize the following discharges, separately or commingled with storm water:

- a) Discharges of pollutants that could cause, have the reasonable potential to cause, or contribute to an exceedance or violation of any applicable surface water quality standards.
- b) Discharges of substances or materials in amounts that are toxic, or that would be toxic to humans, fish, aquatic life or wildlife as defined in the Delaware Surface Water Quality Standards (as amended).
- c) Discharges of floatable debris, oils, scum, foam, or grease.
- d) Discharges of non-storm water except as provided in special provisions within the permit as follows: water line flushing; diverted stream flows; rising groundwaters; uncontaminated groundwater infiltration to separate storm sewers; uncontaminated pumped groundwater; discharges from potable water sources; foundation drains; air conditioning condensate; springs; water from crawl space pumps; footing drains; individual residential vehicle washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; and discharges or flows from emergency fire fighting activities.
- e) Discharges that cause or contribute to degradation or loss of State-designated beneficial uses of the receiving waters.

Receiving Waters and Stream Classification

The land area within the State of Delaware is separated into four major drainage basins: the Piedmont, the Delaware Estuary, the Chesapeake Bay and the Inland Bays/Atlantic Ocean. Within these four watersheds, forty-five subwatersheds at the HUC-10 level have been further delineated and are used for water quality management purposes. Total Maximum Daily Loads (TMDLs) have been assigned to the majority of these subwatersheds to provide for pollutant load allocations that will reduce the amount of nutrients, bacteria, PCBs, metals and other contaminants that would otherwise enter the waterway.

The State of Delaware has a total of 2,509 miles of streams and rivers and 2,954 acres of lakes, reservoirs and ponds. The designated uses for these waters are identified in the State of Delaware Surface Water Quality Standards, as amended, and include public water supply, industrial water supply, primary contact recreation, secondary contact recreation, fish, aquatic life and wildlife, cold water fish, agricultural water supply, harvestable waters and Exceptional Recreational and Ecological Significance (ERES) Waters. According to the 2012 305(b) report submitted to EPA, the Department has determined that 85% of Delaware's rivers and streams do not fully support the swimming use and 94% do not fully support the fish and wildlife use. Most

of these waters do not meet the standards because of the contribution of pollutants from diffuse sources, such as those carried by storm water to the MS4.

Proposed Permit Term and Conditions

The Department proposes to issue this NPDES permit to covered small MS4 entities for a period not to exceed five (5) years, unless administratively extended, subject to the discharge goals, limitations, monitoring requirements and other terms and conditions as outlined in the permit.

Conditions of this permit require the covered entities to possess the legal authority to: (1) control non-point source pollutants that enter the storm sewer system, (2) monitor storm water discharges, (3) provide mapping of the storm sewer system, and (4) develop and implement management programs to minimize the pollutant contribution to and from the MS4.

Basis for Proposed Discharge Limitations and Other Permit Conditions

A wide range of land uses and activities exist across the urbanized areas in Delaware. Many of these sources generate or have the potential to generate pollutants that may become waterborne when they are exposed to precipitation or are transported by storm runoff and discharges to storm sewer systems. With various levels and types of ongoing residential, commercial, industrial, institutional and construction activity, it is difficult to pinpoint the specific pollutants or pollutant levels expected for individual activities or locations. However, it has been shown that urban development and the subsequent storm water runoff from these areas contribute pollutants to surface waters (Carpenter, 1998; Arnold, 2007).

The quality of the storm water discharged to and from an MS4 depends upon the sources of pollutants exposed to the elements and thereby available to be transported offsite via storm water runoff. Minimizing such pollutant sources and the potential for exposure to them reduces the pollutant impact of storm water discharges. With this in mind, the Department strongly supports and promotes a source reduction/pollution prevention approach for managing storm water runoff. On the local level, this type of management program may include a variety of strategies for minimizing the exposure and transport of pollutants in storm runoff. Examples are sedimentation and erosion control programs for construction and land disturbing activities; land use planning and ordinances in those areas subject to new development or redevelopment; municipal programs for recycling and hazardous waste collection, public education and training programs; spill response and cleanup programs; and programs to detect and eliminate, where possible, unauthorized non-storm water discharges to the MS4. From a cost and management standpoint, such measures or practices are believed to be the most efficient and effective methods for managing and controlling pollutants in storm water discharges. In some situations, however, it must be recognized that the use of engineered storm water control structures may be warranted. Municipalities must therefore evaluate the land uses and activities within its jurisdiction and determine which measures or practices are the most appropriate for managing and controlling storm water discharges to and from their MS4s.

The Department developed the discharge goals, limitations, terms and conditions outlined in the draft permit to further the policy and purposes of Title 7, Del. C., Chapter 60 and to achieve the water quality protection goals of the Federal CWA and its implementing regulations.

The statutory provisions governing discharges from MS4s are contained in Section 402(p)(3)(B) of the CWA, 33 U.S.C. § 1342(p)(3)(B), as amended. In general, Congress provided that permits for discharges from MS4s:

- May be issued on either a system-wide or jurisdiction-wide basis;
- Shall effectively prohibit any non-storm water discharges into the MS4s; and
- Shall require controls to reduce the discharge of pollutants from MS4s to the maximum extent practicable.

The proposed provisions in the draft permit recognize the site-specific nature of the discharges to be controlled and the need for flexibility in developing and implementing a program that considers local conditions, land uses, activities and existing programs.

This permit largely follows the Phase II regulations put forth in 40 C.F.R. 122.34. The permit is organized around the six minimum control measures— public education, public involvement, illicit discharge detection and elimination, construction, new development, and good housekeeping. For the purposes of this permit, the public education and involvement requirements have been combined into one permit provision. To provide additional protection to the impaired waterbodies of Delaware, the permit also includes measures to involve the permittee in the industrial storm water permitting process and to more directly address the impairment status of those waterbodies to which their MS4 discharges.

This General Permit also includes provisions that require permittees to maintain both adequate legal authority to control discharges to and from the MS4 and sufficient resources – financial, staff, equipment and support –to implement the storm water management program and administer it effectively. In addition, permittees must undertake appropriate monitoring and reporting, to assess progress and overall program effectiveness. As appropriate, the Department may specify additional requirements or compliance schedules for any and all components of the permittees' comprehensive storm water pollution prevention and management program (SWPP&MP) in order to meet the intent of the NPDES municipal separate storm sewer system permit program and to achieve the level of implementation and progress deemed necessary to achieve water quality protection. This would include any area-specific or site-specific requirements identified through the Department's whole-basin or watershed assessment activities (i.e., the development of any applicable TMDLs and/or pollution control strategies to address specific ambient water quality problems).

Storm Water Pollution Prevention and Management Program (SWPP&MP) (Part II)

The permittee must develop and implement a comprehensive storm water management program designed to control the quality of the storm water discharged from its MS4. The SWPP&MP shall contain measurable goals and shall describe the controls necessary to effectively prohibit the discharge into the MS4 of any materials other than storm water. The SWPP&MP must also

outline measures that will reduce the discharge of pollutants from the MS4 and include a schedule for implementation. The SWPP&MP shall be implemented in accordance with Section 402(p)(3)(B) of the CWA and the applicable federal NPDES storm water regulations in 40 C.F.R. §§ 122.26, 122.33, 122.34 and 122.35.

SWPP&MP Requirements

Part II of the Phase II MS4 General Permit requires the permittees to submit a SWPP&MP to the Department that meets the requirements of Part II. An outline of the SWPP&MP is due within six months following the date of NOI Authorization to Discharge from the Department, the final draft for Department review is due within one year, and the final SWPP&MP is due within 15 months.

The SWPP&MP focuses on the six minimum control measures required by 40 C.F.R. § 122.34, which were initially required of permittees receiving individual Phase II MS4 permits in 2003.. These six measures have been updated and expanded to address the needs of the watersheds and to meet federal requirements. The minimum control measures of *Public Education and Outreach* and *Public Involvement and Participation*, included in the 2003 permit, have been combined into one section for the current General Permit. The new section is called “Public Education/Involvement.”

Public Education/Public Involvement

The permit requires the permittees to develop and implement a public education strategy, to conduct statistically-valid public education surveys, to develop a public involvement process, and to hold annual meetings to coordinate implementation of the SWPP&MP.

Permittees are also required to develop and implement an education and outreach program utilizing available media of their choosing, in an effort to: (1) increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential Best Management Practices (BMP) solutions for the target audience; and (2) change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment, including, but not limited to, decreasing the discharge of pollutants to the MS4 and involving and engaging the public in mitigating the impacts of storm water pollution.

There are significant resources and examples to assist the permittees in implementing a public education strategy. For example, see EPA’s “Getting in Step” guides and the EPA Nonpoint Source Outreach Toolbox (<http://cfpub.epa.gov/npstbx/index.html>). The permittees are required to ensure that a minimum of one impression per year for every two people in their jurisdiction is made about storm water quality. These impressions can be measured in a variety of ways (for example, the estimated listening audience during a radio advertisement, or the total subscription numbers for a newspaper advertisement).

Illicit Discharge Detection and Elimination

The permittees are required to continue to implement an illicit discharge detection and elimination program, and are prohibited from discharging or disposing of used motor vehicle fluids, household hazardous wastes, grass clipping, leaf litter, domestic animal wastes, sanitary sewer overflows (SSO's), and other unauthorized discharges. Within two years of the issuance of this permit, the permittee is required to establish a county or municipal statute or ordinance or similar means, to effectively prohibit the discharge of materials other than storm water to the MS4.

Industrial Storm Water

The permit requires the Phase II MS4 permittees to assist the Department by reviewing and adding (if necessary) to the inventory of those industrial facilities that are subject to the State of Delaware's *Regulations Governing the Control of Water Pollution* (Section 9.1, Industrial Storm Water Program).

Mapping Requirement

The permit requires the permittees to develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the United States that receive discharge from those outfalls. The permittees shall annually revisit and update, as necessary, storm sewer and BMP mapping information.

Construction and Post-Construction Storm Water Management

The permittees are required to develop a storm water program for both construction and post-construction storm water runoff, both having specific guidelines pertaining to content. These guidelines are intended to ensure consistency with Delaware's Sediment and Stormwater Regulations and Title 7, Delaware Code, Chapter 40, through controlling the quantity and quality of storm water runoff during and after construction.

The Department has delegated the authority to administer the program to Delegated Agencies throughout the state. The following information will be included in the evaluation of compliance with this section of the permit:

- i) Tri-ennial Delegation Review under the Delaware Sediment and Stormwater Program
- ii) Department and/or other inspection reviews

Good Housekeeping

The permittees are required to develop and implement a good housekeeping program that is designed to prevent and/or minimize discharges of pollutants associated with the permittees' operations. The good housekeeping program must include: an employee training program; an inventory of all facilities owned or operated by any of the permittees located in the MS4 area; a street sweeping program; a program to reduce the contribution of pollutants associated with the

application, storage and disposal of pesticides, herbicides, and fertilizers from permittees' areas and activities; a program to manage snow and ice, including salt storage and alternate deicing practices and a program to control litter on streets and highways, including the disposal of collected materials.

Area-Specific Storm Water Management Program Requirements

Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs)

At the time of permit issuance, a number of TMDLs have been approved or established by the EPA and the Department for waters located throughout the State of Delaware. These TMDLs may assign specific numeric or narrative WLAs to watersheds located within a permitted entity's MS4, and are expected to represent all pollutant sources including urban storm water, industrial storm water, agriculture, and septic.

The permit requires permittees to address the TMDL WLAs for storm water associated with the MS4 through the iterative implementation of programmatic BMPs. At this time, this permit does not contain numeric effluent limits relating to TMDLs. Working toward meeting TMDL WLAs will be accomplished by implementing all components required to be included in the SWPP&MP. Specific elements within the SWPP&MP which can be used to demonstrate load reductions are contained in the requirements for BMP monitoring and analysis.

Wet Weather Monitoring Plan

The permit requires existing permittee(s) to develop and implement a wet weather monitoring plan to demonstrate progress toward achieving applicable water quality standards. This plan is also expected to identify and prioritize portions of the MS4 that require additional pollutant controls. Newly identified MS4 are not required to develop a wet weather monitoring plan for this permit cycle.

Dry Weather Screening Plan

The permittees are required by the permit to implement a program to detect illicit discharges. Where such discharges are identified, the permit requires appropriate corrective action, by either elimination of the discharge or by obtaining an NPDES permit for these discharges.

In-Stream Monitoring

This permit allows state 305(b) reports to be used as a substitute for in-stream monitoring if adequate, as determined by the Department, to meet the goals of the SWPP&MP. However, permittees may choose to provide in-stream monitoring data to support goals of TMDL within the MS4 area.

Evaluation of the SWPP&MP (Part III)

No later than four years following the date of Authorization to Discharge from the Department, the permittee(s) shall conduct a comprehensive effectiveness analysis of the SWPP&MP, with analysis measures to be described in the SWPP&MP Monitoring Plan. This analysis shall quantify the associated expected load reductions to estimate the anticipated progress toward achieving the WLAs.

Implementation of BMPs to address TMDLs and applicable water quality standards will be in stages, with permittees implementing reductions over iterative stages of a long-term program. Additional information generated during each stage of BMP implementation will support future decisions regarding the feasibility of achieving existing criteria.

The permit requires the permittees to conduct an analysis of the existing BMPs being implemented and to select the most appropriate supplemental BMPs, if necessary, to work toward achieving the numeric WLAs. The 2002 EPA Memorandum states that where the NPDES permitting authority allows for a choice of BMPs, a discussion of the BMP selection and assumptions needs to be included in the permit's administrative record, including the fact sheet when one is required. (40 C.F.R. §§ 124.8, 124.9 & 124.18.)

The permittees can review existing permitting resources for assistance in developing a method to analyze the expected pollutant load reductions from selected BMPs and to provide a preliminary indicator of anticipated progress toward achieving WLAs. EPA Region 3's Fact Sheet *Understanding Impaired Waters and TMDL Requirements for Municipal Stormwater Programs* (Jan. 2008) (available at http://www.epa.gov/npdes/pubs/region3_factsheet_tmdl.pdf) provides a step-by-step approach for addressing WLAs in MS4 storm water management programs, including selecting and implementing BMPs to address WLAs. This Fact Sheet also references the City of Portland's (Oregon) approach for reviewing and updating its storm water management program to implement the WLAs assigned to the City's MS4. The City of Portland's MS4 storm water management plan describes the approach used to develop performance measures to quantify the expected pollutant load reductions from each BMP and benchmarks to quantify the estimated total pollutant load reduction with an approved WLA. The City of Portland's storm water management website provides more information on the approaches used to develop BMP performance measures and benchmarks for measuring progress toward achieving WLAs, along with its BMP Effectiveness Evaluation Report. See <http://www.portlandonline.com/bes/index.cfm?c=43352>; <http://www.portlandoregon.gov/bes/article/126117>.

Sampling and Reporting Procedures (Part IV)

In addition to monitoring BMPs for performance, existing permittees are required to monitor wet-weather events in order to characterize the discharge from major outfalls, to estimate loadings from the MS4, to identify portions of the MS4 which require additional BMPs, and to identify any changes in receiving water quality. Newly identified permittees are not required to implement a Wet Weather monitoring program during the first permit cycle but must adhere to

the performance monitoring requirements of Part IV where applicable during their first permit cycle.

Part IV.F requires the permittee(s) to submit an annual report by June 30 that covers the activities of the previous calendar year. A template for the annual report is included in the permit.

Public Notice and Process for Reaching a Final Decision

The public notice of the Department's issuance of the General Permit outlined herein will be published in the Wilmington News Journal and the Delaware State News on **XXXX #, 2016**. Interested persons are invited to submit their written views on the draft permit and the tentative determinations made with respect to this NPDES draft permit. The Department will not hold a public hearing on this application unless the Department receives a meritorious request to do so or unless the notice of this proposal generates substantial public interest. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the application and a reasoned statement of the permit's probable impact. The request for a public hearing shall be in writing and shall state the nature of the issues to be raised at the hearing. All comments received by the close of business at 4:30 pm on **XXXX #, 2016**, will be considered by the Department in preparing the final permit.

Department Contact for Additional Information:

Beau Croll .
Environmental Scientist III
State of Delaware
Department of Natural Resources and Environmental Control
Division of Water/Surface Water Discharges Section/MS4
89 Kings Highway
Dover, DE 19901
(302) 739-9946
Beau.Croll@state.de.us

References:

Arnold, Chester L. and C. James Gibbons (1996) Impervious Surface Coverage: The Emergence of a Key Environmental Indicator, *Journal of the American Planning Association*. 62(2).

Carpenter, S.R.; N.F. Caraco; D.L. Correll; R.W. Howarth; A.N. Sharpley and V.H. Smith (1998) Nonpoint Pollution of Surface Waters with Phosphorus and Nitrogen, *Ecological Applications*, 8(3) 559-568.